

## **AMENDMENT TO THE CLAIMS**

1. (Currently Amended) A system providing network topology and bandwidth management comprising:

a processor executing a connection module and a management module stored in memory;

the connection module accepting inputs and providing outputs to various types of voice and non-voice data networks; and

the management module cooperating with the connection module to accept data from the said voice and non-voice data networks for routing, the management module instructing a frequency demultiplexer to demultiplex a received multi-frequency signal into separate frequency components, the management module instructing the processor to receive voice signals at a telephony interface and to separate the voice signals from data signals, the management module routing the voice signals to a multi-frequency path in a frequency crossbar, the multi-frequency path associated with the telephony interface, the frequency crossbar bridging the multi-frequency path to an output port, such that the determining an output port is determined in a router based on a frequency of the voice signals at least one component signal of the multi-frequency signal.

2. (Previously Presented) The system as recited in claim 1, wherein the management module comprises a plurality of network adapters for use to connect to various voice and non-voice data networks.
3. (Previously Presented) The system as recited in claim 1, further comprising a control circuit, the control circuit executing one or more instructions for use to determine an origination of the data and a destination of the data.

4. (Original) The system as recited in claim 3, wherein the control circuit selects an appropriate network adapter based on the origination and destination of the data.
5. (Previously Presented) The system as recited in claim 2, wherein the network adapters comprise any of an HPNA adapter, coaxial network adapter, Ethernet network adapter, wireless network adapter, POTS adapters, and power line network adapters.
6. (Previously Presented) The system as recited in claim 5, wherein the data is processed according to a type of adapter.
7. (Previously Presented) The system as recited in claim 1, further comprising a computing application, the computing application having a user interface for use in configuring the connection and management modules.
8. (Original) The system as recited in claim 1, wherein the voice data networks comprise the public switched telephone network.
9. (Original) The system as recited in claim 1, wherein the non-voice data networks comprise any of the Internet, a LAN, a WAN, and a peer-to-peer network.
10. (Original) The system as recited in claim 1, wherein the management module is capable of processing various data communication protocols comprising any of IP, Ethernet and ATM.
11. (Currently Amended) A method for the management of network topology and bandwidth comprising:  
  
determining a source of data for communication to a termination point having a predetermined operational signal frequency;

separating telephony signals from digital subscriber line signals ~~using a frequency demultiplexer;~~

routing the telephony signals to an input of a frequency demultiplexer;

separately sending the telephony signals from an output of the frequency demultiplexer to an input of and the digital subscriber line signals to a frequency crossbar that bridges inputs to different transceivers and to different telephony ports;

bridging the output of the frequency demultiplexer in the frequency crossbar to one of the telephony ports based on a frequency of the voice signals;

routing the digital subscriber line signals to the input of the frequency demultiplexer;

sending the digital subscriber line signals from another output of the frequency demultiplexer to another input of the frequency crossbar;

bridging the another output of the frequency demultiplexer in the frequency crossbar to another telephony port based on the frequency of the digital subscriber line signals; and

receiving Ethernet signals at a transceiver and bridging the Ethernet signals in the frequency crossbar to a different one of the telephony ports;

~~selecting a network topology adapter based on the termination point and the predetermined operational signal frequency, wherein the network topology adapter comprises any of HPNA adapter, coaxial network adapter, Ethernet network adapter, wireless network adapter, POTS adapters, and power line network adapters;~~

~~bridging the telephony signals in the frequency crossbar to a telephony output port;~~

~~bridging the digital subscriber line signals in the frequency crossbar to a multi-frequency path associated with an output port to a modem;~~

~~sending the digital subscriber line signals from the modem to an Ethernet output port; and~~

~~communicating the data to the termination point based on the selected network topology adapter.~~

12. (Original) The method as recited in claim 11, further comprising routing the data using addressing information.
13. (Currently Amended) The method as recited in claim [[12]] 11, further comprising configuring a network adapter ~~the adapters, wherein a computing application capable of configuring the adapters is used.~~
14. (Currently Amended) The method as recited in claim [[11]] 13, further comprising executing at least one instruction set for use in selecting the network ~~appropriate~~ adapter, the instruction set being executed by a control logic circuit.
15. (Cancel)
16. (Currently Amended) An apparatus for the management of network topology and bandwidth comprising:

an input module having ports to receive various network couplers from various voice and non-voice data networks;

a control module having at least one instruction set for execution to determine source and destination points of voice signals and data which is communicated across the apparatus to and from the various voice and non-voice data networks, the control module;

separating telephony signals from digital subscriber line signals;

routing the telephony signals to an input of a frequency demultiplexer;

sending the telephony signals from an output of the frequency demultiplexer to an input of a frequency crossbar that bridges inputs to different transceivers and to different telephony ports;

bridging the output of the frequency demultiplexer in the frequency crossbar to one of the telephony ports based on a frequency of the voice signals;

routing the digital subscriber line signals to the input of the frequency demultiplexer;

sending the digital subscriber line signals from another output of the frequency demultiplexer to another input of the frequency crossbar;

bridging the another output of the frequency demultiplexer in the frequency crossbar to another telephony port based on the frequency of the digital subscriber line signals; and

receiving Ethernet signals at a transceiver and bridging the Ethernet signals in the frequency crossbar to a different one of the telephony ports;

~~using a frequency demultiplexer and separately sending the telephony signals and the digital subscriber line signals to a frequency crossbar, the control module determining an output port in a router based on a destination address and on a frequency of a destination line, the control module bridging the telephony signals in the frequency crossbar to a telephony output port, the control module bridging the digital subscriber line signals in the frequency crossbar to the output port in the router, and the control module choosing a network coupler based on the output port and on the frequency of the destination line; and~~

~~an output module, the output module cooperating with the control module to select a network adapter for use to communicate data to a destination point.~~

17. (Original) The apparatus as recited in claim 16, further comprising:

a computing application interface, the computing application interface for use to communicate with at least one computing application for use in configuring the apparatus.

18. (Previously Presented) The apparatus as recited in claim 17, wherein the computing application comprises a Web browser interface.

19. (Currently Amended) The apparatus as recited in claim 16, further comprising wherein the output module comprises a plurality of output ports for use when routing the Ethernet data.
20. (Original) The apparatus as recited in claim 19, wherein the output ports comprise RJ-11 type ports.
21. (Currently Amended) The apparatus as recited in claim 16, wherein the control module selects a network adapter comprising ~~comprises~~ any of an HPNA adapter, coaxial network adapter, Ethernet network adapter, wireless network adapter, POTS adapters and a power line network adapter, ~~the network adapter being selected based on the operational frequency of the source and destination points.~~
22. (Currently Amended) A method for managing a network control device, the method comprising:
- accessing a graphical user interface having a topology management control and an application services gateway control;
  - activating the topology management control to execute one or more instructions to configure a network management device;
  - activating the application services gateway control to execute one or more instructions to configure the network management device to operate with services provided by a telephone services provider;
  - determining a source of data for communication to a termination point having a predetermined operational signal frequency;
  - separating telephony signals from digital subscriber line signals using a frequency demultiplexer;
  - sending the telephony signals from an output of the frequency demultiplexer to an input of a frequency crossbar that bridges inputs to different transceivers and to different telephony ports;

bridging the output of the frequency demultiplexer in the frequency crossbar to one of the telephony ports based on a frequency of the voice signals;

sending the digital subscriber line signals from another output of the frequency demultiplexer to another input of the frequency crossbar;

bridging the another output of the frequency demultiplexer in the frequency crossbar to another telephony port based on the frequency of the digital subscriber line signals; and

receiving Ethernet signals at an Ethernet port;

selecting a different one of the telephony ports as a destination for the Ethernet signals;

selecting a transceiver associated with the different one of the telephony ports;

bridging the transceiver to the different one of the telephony ports in the frequency crossbar; and

routing the Ethernet signals from the transceiver, into the frequency crossbar, and to the different one of the telephony ports

~~separately sending the telephony signals and the digital subscriber line signals to a frequency crossbar;~~

~~bridging the telephony signals in the frequency crossbar to a telephony output port;~~

~~bridging the digital subscriber line signals in the frequency crossbar to an output port;~~

~~sending the digital subscriber line signals to an Ethernet output port; and~~

~~routing the telephony signals and the digital subscriber line signals through the configured network management device to network adapters based on a frequency of a destination line.~~

23. (Previously Presented) The method of claim 22, wherein activating the topology management control to execute one or more instructions to configure a network management device comprises selecting configuration information including one or more

of network addressing information, encryption information and network/bandwidth topology information.

24. (Previously Presented) The method of claim 22, wherein activating the application services gateway control to execute one or more instructions to configure the network management device comprises selecting services comprising one or more of video on demand, music on demand, remote security applications and video conferencing.
25. (Previously Presented) The method of claim 22, wherein accessing a graphical user interface comprises navigating controls of the network management device using a computer browser application.
26. (Previously Presented) The method of claim 22, wherein activating the topology management control further comprises manipulating controls for configuring one of a home network and a small office network.
27. (Currently Amended) The method of claim 22, further comprising selecting a network adapter from ~~wherein routing the telephony signals and the digital subscriber line signals comprises routing network data packets to one or more of~~ an HPNA adapter, a coaxial network adapter, an Ethernet network adapter, a wireless network adapter, a POTS adapter, and a power line network adapter.
28. (Currently Amended) A computer-readable medium having computer-executable instructions for performing a method for managing a network control device, the method comprising:

accessing a graphical user interface having a topology management control and an application services gateway control;

activating the topology management control to execute one or more instructions to configure a network management device;



activating the application services gateway control to execute one or more instructions to configure the network management device to operate with services provided by a telephone services provider;

determining a source of data for communication to a termination point having a predetermined operational signal frequency;

separating telephony signals from digital subscriber line signals using a frequency demultiplexer;

sending the telephony signals from an output of the frequency demultiplexer to an input of a frequency crossbar that bridges inputs to different transceivers and to different telephony ports;

bridging the output of the frequency demultiplexer in the frequency crossbar to one of the telephony ports based on a frequency of the voice signals;

sending the digital subscriber line signals from another output of the frequency demultiplexer to another input of the frequency crossbar;

bridging the another output of the frequency demultiplexer in the frequency crossbar to another telephony port based on the frequency of the digital subscriber line signals; and

receiving Ethernet signals at an Ethernet port;

selecting a different one of the telephony ports as a destination for the Ethernet signals;

selecting a transceiver associated with the different one of the telephony ports;

bridging the transceiver to the different one of the telephony ports in the frequency crossbar; and

routing the Ethernet signals from the transceiver, into the frequency crossbar, and to the different one of the telephony ports

~~separately sending the telephony signals and the digital subscriber line signals to a frequency crossbar;~~

~~bridging the telephony signals in the frequency crossbar to a telephony output port;~~

~~bridging the digital subscriber line signals in the frequency crossbar to an output port;~~

~~sending the digital subscriber line signals to an Ethernet output port; and~~

~~routing the telephony signals and the digital subscriber line signals through the configured network management device to network adapters based on a frequency of a destination line.~~

29. (Previously Presented) The computer-readable medium of claim 28, wherein activating the topology management control to execute one or more instructions to configure a network management device comprises selecting configuration information including one or more of network addressing information, encryption information and network/bandwidth topology information.
30. (Previously Presented) The computer-readable medium of claim 28, wherein activating the application services gateway control to execute one or more instructions to configure the network management device comprises selecting services comprising one or more of video on demand, music on demand, remote security applications and video conferencing.
31. (Previously Presented) The computer-readable medium of claim 28, wherein accessing a graphical user interface comprises navigating controls of the network management device using a computer browser application.
32. (Previously Presented) The computer-readable medium of claim 28, wherein activating the topology management control further comprises manipulating controls for configuring one of a home network and a small office network.
33. (Currently Amended) The computer-readable medium of claim 28, further comprising selecting a network adapter from ~~wherein routing one or more of voice information and non-voice information through the configured network management device to network~~

~~adapters comprises routing network data packets to one or more of~~ an HPNA adapter, a coaxial network adapter, an Ethernet network adapter, a wireless network adapter, a POTS adapter, and a power line network adapter.